

MODERN FAUNA AND FLORA OF THE TEXAS CAVES AREA,
SOUTHEASTERN QUEENSLAND

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ABSTRACT

Compilations of modern faunal and floral survey data by various researchers from the Texas Caves area are presented. Reptiles and birds are very diverse but the terrestrial native mammal fauna is depauperate. Introduced mammals and plants are abundant and they probably contributed to the apparent extinction in the area of what was once a very diverse mammal fauna.

In 1973 and 1975, in anticipation of the flooding of Pike Creek and the submergence of the Texas Caves, the Queensland Museum undertook to survey the fossils of the Texas Caves (Archer 1978), as well as aspects of the modern fauna of the Viator Hill area. Grimes (1978) has reviewed the geology and caves of the area. Smith and Shipp (1978) have described a nicoletiid (silverfish) from one of the Texas Caves. The following people have been responsible for particular surveys and the lists provided below: R. McKay (Queensland Museum), lycosid spiders, freshwater fish; G. Czechura (working in conjunction with Kelvin Grove College of Advanced Education), amphibians and reptiles; P. Dwyer and D. Joffe (Queensland University and Queensland Museum), birds; M. Archer and S. Van Dyck (Queensland Museum), mammals; J. Marsh (Kelvin Grove College of Advanced Education), plants; and E. Hamilton-Smith, cave invertebrates in general.

ARACHNIDA (LYCOSIDAE ONLY): R. McKay

Lycosa godeffroyi: claysoils on river banks, and clay alluvium.

L. semicineta: grasslands only.

L. palabunda: cracked clay soils with grass clumps.

L. speciosa: under riverine trees and bushes.

L. lapidosa: under stones on river banks.

Artoria, new species: under small pebbles on river banks.

MOLLUSCS

Numerous specimens of gastropods have been collected from the surface of Viator Hill and the surfaces of several cave floors by A. Burrows and K. Grimes in 1974, 5 and 6. These specimens are in the collections of the National Museum of Victoria or the private collection of F. W. Aslin. They are currently under study by F. W. Aslin.

PISCES: R. McKay

All fish were netted from the Pike Creek, adjacent to Viator Hill.

Retropinna semoni (e.g. I. 10360)

Tandanus tandanus (e.g. I. 10361)

Nematocentrus fluviatilis (e.g. I. 10362)

Craterocephalus fluviatilis (e.g. I. 10363)

Hypseleotris klunzingeri (e.g. I. 10364)

Gambusia affinis (introduced species, e.g. I. 10359)

AMPHIBIA: G. Czechura

Habitats in which animals were seen or collected have been abbreviated as follows: A, slopes of Viator Hill, limestone with variously thick vegetation; B, swamp near Pike Creek; C, caves area around Glen Lyon Cave, limestone but topographically lower and closer to Pike Creek, than A; D, *Callitris* forest on hill slopes, giving way to sclerophyll woodland on stoney areas around base of hills; and E, the 'camp' on the floodplain of Pike Creek, savannah woodland. Some specimens of amphibians have yet to be accessed into the collections of the Queensland Museum. An asterisk after a name indicates the species was observed but not collected.

Family Pelodyadidae

- Littoria caerulea**: common near water; some were found in caves; A-E.
L. peroni: found in buildings (abandoned homesteads) and in swampy areas; B, C.
L. rubella (e.g. J25926): common in swampy areas and along creeks; B-E.
L. latopalmata: found in grassy areas and along creeks; B-D.
L. lesueuri (e.g. J25928-33): some were found in caves, as well as in damp areas; C-D.
Ranidella parinsignifera: found calling from swampy areas; B-D.

Family Myobatrachidae

- Uperoleia rugosa* (e.g. J25922): found in swampy areas, and near a small creek, calling from moist grassy areas; B, D.
Lymnodynastes fletcheri (e.g. J25925): found in densely grassed areas near standing water; B-D.
L. terrareginae (e.g. J25923): found breeding in swampy areas; B.
L. dumerilii: found in swampy areas and along creek margins; B, D.
L. ornatus (e.g. J25924): common near water, on dirt roads, and in caves; they were breeding; A-E.

REPTILIA: G. Czechura

Habitats surveyed are the same as those noted above for amphibians and are similarly abbreviated.

Order Squamata

Suborder Lacertilia

Family Gekkonidae

- Heteronotia binoei* (e.g. J25936): common amongst rocks; A, C-D.
Oedura robusta: found under bark on trees; D.
Gehyra australis (e.g. J25937): found under bark on trees; C.
Diplodactylus sp.*: observed in a stoney area adjacent to a road; E.

Family Scincidae

- Morethia boulengeri*: found under debris; C.
*M. taeniopleurus**: observed among rocks and leaf litter; A, C.
Lerista fragilis: found under wood in area of *Callitris* pine; D.
Cryptoblepharus boutonii virgatus: common on rocks and trees; A, C-E.
Ctenotus robustus (e.g. J25938-40): found among rocks; A, C.
Carlia burnetti: found among leaf litter in woodlands; D.
C. vivax (e.g. J25916-20): found among rocks and grassy areas; A, C-D.
Egernia striolata: found on tree trunks; C.
 ***E. cunninghami* (e.g. J26336): found widely on rocky outcrops; A, C.

*Sphenomorphus quoyii**: observed among rocks and in cool damp areas; C.

Family Pygopodidae

- Lialis burtoni* (e.g. J25934): common in rocky areas; A.
Delma plebia: found under a log in grassland; A.

Family Agamidae

- Amphibolurus barbatus**: found in woodlands; D.
A. nobbi: (no notes).
A. sp.: under fallen timber; C.

Family Varanidae

- Varanus tristis orientalis**: found under rocks; A.
*V. gouldii**: commonly sighted; A.
*V. varius**: commonly sighted; A.

Suborder Ophidia

Family Boidae

- Liasis childreni* (e.g. J26335): found near area of *Callitris*; D.
*Morelia spilotes variegata**: (observed, no notes).

Family Colubridae

- Dendrolaphis punctatus**: (observed, no notes).

Family Elapidae

- Suta gouldii* (= *dwyeri*): found near camp at night; D.
Pseudechis porphyriacus (e.g. J25941): found near caves, and along Pike Creek; A.
*Demansia psammophis**: commonly observed in area; C-E.

Order Chelonia

Family Chelyidae

- Elseya latisternum*: observed in large numbers by J. Covacevich (pers. comm.) in the still pools of Pike Creek.

AVES: P. Dwyer and D. Joffe

Species with an asterisk after the name are represented by specimens in the Queensland Museum. The remainder are sight identifications.

Hoary-headed Grebe (*Poliiocephalus poliiocephalus*)
 Little Grebe (*Tachybaptus novaehollandiae*)

*Observed but not collected.

**The material referred here to *Egernia cunninghami* may be separable taxonomically from other southeastern Queensland populations of this species.

- Australian Pelican (*Pelecanus conspicillatus*)
 Pied Cormorant (*Phalacrocorax varius*)
 Little Pied Cormorant (*P. melanoleucos*)
 Black Cormorant (*P. carbo*)
 White-necked Heron (*Ardea pacifica*)
 White-faced Heron (*A. novaehollandiae*)
 Nankeen Night-heron (*Nycticorax caledonicus*)
 Straw-necked Ibis (*Threskiornis spinicollis*)
 Black Duck (*Anas superciliosa*)
 Crested Hawk (*Aviceda subcristata*)
 Whistling Kite (*Haliastur sphenurus*)
 Wedge-tailed Eagle (*Aquila audax*)
 Brown Falcon (*Falco berigora*)
 Nankeen Kestrel (*F. cenchroides*)
 Dusky Moorhen (*Gallinula tenebrosa*)
 Coot (*Fulica atra*)
 Masked Plover (*Vanellus miles*)
 Black-fronted Dotterel (*Charadrius melanops*)
 Peaceful Dove (*Geopelia striata*)*
 Bar-shouldered Dove (*G. humeralis*)
 Common Bronzewing (*Phaps chalcoptera*)*
 Crested Pigeon (*Ocyphaps lophotes*)
 Galah (*Cacatua roseicapilla*)
 Little Lorikeet (*Glossopsitta pusilla*)
 King Parrot (*Alisterus scapularis*)
 Red-winged Parrot (*Aprosmictus erythropterus*)
 Eastern Rosella (*Platycercus eximius*)*
 Pale-headed Rosella (*Platycercus adscitus*)
 Red-rumped Parrot (*Psephotus haematonotus*)
 Turquoise Parrot (*Neophema pulchella*)
 Pallid Cuckoo (*Cuculus pallidus*)
 Spotted Owl (*Ninox novaeseelandiae*)
 Barn Owl (*Tyto alba*)
 Owlet-nightjar (*Aegotheles cristatus*)
 Spine-tailed Swift (*Hirundapus caudacutus*)
 Fork-tailed Swift (*Apus pacificus*)
 Kookaburra (*Dacelo novaeguineae*)
 Red-backed Kingfisher (*Halcyon pyrrhopygia*)
 Sacred Kingfisher (*H. sancta*)
 Rainbow Bee-eater (*Merops ornatus*)*
 Dollarbird (*Eurystomus orientalis*)
 White-backed Swallow (*Cheramoeca leucosternum*)
 Welcome Swallow (*Hirundo neoxena*)*
 Fairy Martin (*Cecropis ariel*)
 Richard's Pipit (*Anthus novaeseelandiae*)
 Black-faced Cuckoo-shrike (*Coracina novaehollandiae*)*
 White-winged Triller (*Lalage suerii*)*
 Hooded Yellow (*Melanodryas cucullata*)
 Eastern Yellow Robin (*Eosaltria australis*)
 Jacky Winter (*Microeca leucophaea*)
 Rufous Whistler (*Pachycephala rufiventris*)*
 Grey Shrike-thrush (*Colluricincla harmonica*)*
 Restless Flycatcher (*Myiagra inquieta*)
 Willie Wagtail (*Rhipidura leucophrys*)*
 Grey-crowned Babbler (*Pomatostomus temporalis*)*
 Rufous Songlark (*Cincloramphus mathewsi*)*
 Brown Songlark (*C. cruralis*)
 Superb Blue Wren (*Maturus cyaneus*)*
 Speckled Warbler (*Sericornis sagittatus*)*
 White-throated Warbler (*Gerygone olivacea*)
 Yellow-rumped Thornbill (*Acanthiza chrysorrhoa*)*
 Southern Whiteface (*Aphelocephala leucopsis*)*
 Varied Sittella (*Daphoenositta chrysoptera*)
 Brown Treecreeper (*Climacteris picumnus*)
 Spiny-cheeked Honeyeater (*Acanthagenys rufogularis*)
 Striped Honeyeater (*Plectorhyncha lanceolata*)
 Noisy Friarbird (*Philemon corniculatus*)*
 Little Friarbird (*P. citreogularis*)*
 Noisy Minor (*Manorima melanocephala*)*
 White-eared Honeyeater (*Lichenostomus leucotis*)*
 Fuscous Honeyeater (*L. fuscus*)
 White-plumed Honeyeater (*L. penicillatus*)
 Brown Honeyeater (*Lichmera indistincta*)*
 Mistletoebird (*Dicaeum hirundinaceum*)*
 Striated Pardalote (*Pardalotus striatus*)
 House Sparrow (*Passer domesticus*)
 Red-browed Firetail (*Emblema temporalis*)
 Diamond Firetail (*E. guttata*)
 Black-throated Finch (*Poephila cincta*)
 Plum-headed Finch (*Aidemosyne modesta*)*
 Chestnut-breasted Finch (*Lonchura castaneothorax*)
 Common Starling (*Sturnus vulgaris*)
 White-winged Chough (*Corcorax melanorhamphos*)
 Apostlebird (*Struthidea cinerea*)
 Australian Magpie Lark (*Grallina cyanoleuca*)
 White-breasted Woodswallow (*Artamus leucorhynchus*)
 Masked Woodswallow (*A. personatus*)
 White-browed Woodswallow (*A. superciliosus*)*
 Dusky Woodswallow (*A. cyanopterus*)*
 Grey Butcherbird (*Cracticus torquatus*)
 Pied Butcherbird (*C. nigrogularis*)*
 Australian Magpie (*Gymnorhina tibicen*)
 Pied Currawong (*Strepera graculina*)*
 Torresian Crow (*Corvus orru*).

MAMMALIA: M. Archer and S. Van Dyck

Mammal surveys in the Texas Caves area were run once by Archer in February, 1975, in conjunction with the students and staff of Kelvin Grove College of Advanced Education; and again by Van Dyck in March, 1976. Traps used included wire live traps, Elliot live traps, postholes, breakback traps and mist-nets. Both surveys in cleared and uncleared country were disappointing and resulted in no native mammals except bats, Brush-tailed Possums, monotremes, water rats and two of the larger kangaroo species. Introduced mammals were common, and we can only conclude that the area is now depauperate in native mammals at least in part because of these introduced species. From the results of the palaeontological survey (Archer 1978), it is clear that the area once supported a very diverse fauna.

Endemic mammals:

Tachyglossidae

Tachyglossus aculeatus one individual found on grassed floodplain of Pike Creek

Ornithorhynchidae

Ornithorhynchus anatinus: individuals observed swimming in Pike Creek in early morning

Macropodidae

Macropus giganteus (e.g. JM1862): common on lower hillslopes

M. robustus (e.g. JM2247): common on Viator Hill

Phalangeridae

Trichosurus vulpecula: commonly observed along creeks, spotlighted at night

Vespertilionidae

Miniopterus schreibersii: colonies present in at least Main Cave of Viator Hill

Chalinolobus gouldii (e.g. JM1460): individuals netted over Pike Creek and adjacent tributaries

Eptesicus pumilus (e.g. JM995-6): collected from verandah of abandoned Russenden Station house

Nycticeius greyi (e.g. JM1465): individuals netted over Pike Creek and adjacent tributaries

Rhinolophidae

Rhinolophus megaphyllus: present in Texas Caves (P. Dwyer, pers. comm.)

Mollosidae

Tadarida loriae (e.g. JM1462): Individuals netted over Pike Creek and tributaries

Muridae

Hydromys chrysogaster: two individuals were observed, by J. Covacevich (pers. comm.), swimming in Pike Creek

Introduced mammals

Muridae

Rattus rattus: found around abandoned buildings, on the surface of some of the caves, and in the bush on and around Viator Hill

Mus musculus: trapped in same situations as *Rattus rattus*

Bovidae

Bos taurus: most common mammal in the area

Ovis aries: common

Equidae

Equus caballus: uncommon

Felidae

Felis catus (many collected but none retained): commonly observed on Viator Hill

Leporidae

Oryctolagus cuniculus: commonly observed

Canidae

Vulpes vulpes: commonly observed

In addition, the surfaces of many of the caves have very fresh-appearing bones representing some of the above mammals as well as the following (murids were identified by J. Mahoney):

Macropodidae

Petrogale sp.: as noted elsewhere (Archer 1978), none were seen live, but the great abundance of fresh bones representing Rock Wallabies suggests they may still survive in adjacent areas.

Muridae

Rattus sp., cf. *R. fuscipes*: fresh-appearing dentaries were collected from an unnamed pothole by A. W. Graham, 22.1.1970.

Pseudomys gracilicaudatus: two dentaries and a maxilla of fresh appearance were collected by A. Burrows from the surface of Rabsuttle Cave, 18.7.1975.

CAVERNICOLOUS FAUNA: E. Hamilton-Smith

Smith and Shipp (1978) have described a new nicoletiid silverfish from Russenden Cave (VR-2) and note they were evidently common in other caves of the area.

The annotated list provided below is an amalgamation of collections made over several years.

Isopoda (indet.)

Mikes Pot (VR-6), R. M. Bourke, 1.3.69; Crystal Cave (VR-3), R. M. Bourke, 22.3.69; Main Viator Cave (VR-1), R. M. Bourke, 2.3.69; Hamilton-Smith, 8.2.64, 22.3.69; Russenden Cave (VR-2?), J. Toop, 26.11.72.

Diplopoda (indet.)

Glen Lyon Cave (GL-1), R. M. Bourke, 1.3.70; Main Viator Cave, Hamilton-Smith, 22.3.69.

Araneae (indet.)

The Joint (VR-5), R. M. Bourke, 22.3.69; Main Viator Cave, Hamilton-Smith, 22.3.69.

Thysanura

Nicoletiidae

Nicolotia russendenensis Smith and Shipp

Russenden Cave (and other caves), J. Toop, 26.11.72.

Orthoptera
Gryllidae
Endacusta sp.

Mike's Pot, R. M. Bourke, 2.3.70.

Dictyoptera
Blatellidae
Gislenia sp.

Crystal Cave, R. M. Bourke, 22.3.69; Russenden Cave, R. M. Bourke, 2.3.69, Hamilton-Smith, 22.3.69; J. Toop, 26.11.72; Glen Lyon Cave, R. M. Bourke, 1.3.70; Main Viator Cave, Hamilton-Smith, 8.2.64, 22.3.69.

This species is undescribed. Only immature specimens have been collected. It is closely related to, but distinct from *G. australis* (Saussure) (M. J. Mackerras, pers. comm.).

Psocoptera
Phyllipsocidae
Phyllipsocus ramburi Selys-Longchamps

Main Viator Cave, Hamilton-Smith, 22.3.69.

Coleoptera
Carabidae
Notospeophonus sp.

Main Viator Cave, Hamilton-Smith, 8.2.64.

The genus *Notospeophonus* appears to be virtually confined to caves in southern and eastern Australia. It consists of a number of closely related species. The Texas form is the most northerly representative of the genus. It is currently undescribed but appears to be conspecific with a species occurring in the Timor Caves near Murrurundi, N.S.W. (B.P. Moore, pers. comm.).

Cratogaster melas Carter

Mike's Pot, R. M. Bourke, 1.3.69; The Joint, Hamilton-Smith, 22.3.69.

Spp. indet.

Glen Lyon Cave, J. Toop, 3.3.71; Main Viator Cave, J. Toop, 3.3.71.

Anisotomidae
Pseudonemadus sp.

Main Viator Cave, Hamilton-Smith, 8.2.64.

This record was published (*J. Aust. ent. Soc.* 6: 114) as *P. integer* (Portevin), but this determination must be re-assessed in the light of more recent taxonomic revision of the genus.

Diptera
Family indet.

Glen Lyon Cave, R. M. Bourke, 1.3.70; Russenden Cave, J. Toop, 26.11.72.

Streblidae
Brachytarsina amboinensis uniformis Maa

Main Viator Cave. (Maa 1971).

This specimen was taken from the bat *Eptesicus* sp. (cited by Maa under the name *Vespadelus pumilus*) but normally occurs on *Miniopterus* spp., which also occur in the cave.

Nycteribiidae
Basilina musgravei Theodor

This specimen is noted by Maa (1971). It was taken from *Eptesicus* sp. (*Vespadellus pumilus* in Maa) which is its normal host.

In general, although some of these specimens require further study, none appear to be troglobitic. Of the determined species, only *Nicoletia russendenensis* and *Notospeophonus* sp. appear from our present knowledge to be confined to caves. However, the former is probably endogenous rather than truly cavernicolous and the latter is a troglophile. With the exception of *Notospeophonus* sp., the assemblage is typical of that found in caves throughout the northern part of Australia.

PLANTS: J. Marsh (noted above), and E. Ross and N. Brynes (Queensland Herbarium).

Plants were collected by J. Marsh in conjunction with students of Kelvin Grove College of Advanced Education. They were identified by E. Ross and N. Brynes. Common names are also listed if they are available.

Amaranthaceae

Nyssanthes diffusa (Barb-wire Weed)

Bignoniaceae

Pandorea pandorana (Wonga vine)

Boraginaceae

Heliotropium amplexicaule (Blue Heliotrope)

Cactaceae

Opuntia sp. (Prickly Pear)

Capparidaceae

Breynia oblongifolia (Coffee Bush)

Chenopodiaceae

Bassia birchii (Galvanized Burr)

Rhagodia nutans (one of the berry saltbushes)

Commelinaceae

Commelina cyanea (Wandering Jew)

- Compositae
Calotis lappulacen (Daisy Burr)
Cassinia quiquefaria
Centaurea calcitrapa
Cirsium vulgare (Spear Thistle)
Eclipta platyglossa
Erigeron canadensis (a fleabane)
Glossogyne tenuifolia (Native Cobbler's Peg)
Lactuca saligna (Wild Lettuce)
Vittadinia triloba (Fuzz Weed)
Zinnia peruviana (Wild Zinnia)
- Convolvulaceae
Convolvulus erubescens (Australian Bindweed)
Dichondra repens (Kidney Weed)
- Cruciferae
Sisymbrium officinale
- Cupressaceae
Callitris sp. (a cyprus pine)
- Cyperaceae
Fimbristylis dichotoma (a sedge)
Scirpus validus (a sedge)
- Euphorbiaceae
Phyllanthus simplex
- Geraniaceae
Geranium solanderi
- Gramineae
Aristida sp.
Bothriochloa decipiens (Bitter or Pitted Blue Grass)
Chloris truncata (one of the windmill grasses)
Cymbopogon refractus (Barb-wire Grass)
Digitaria divaricatissima (Blow-away Grass)
Echinopogon intermedius (one of the rough bearded grasses)
E. nutans (one of the rough bearded grasses)
Enneapogon gracilis (one of the bottle washer grasses)
Eragrostis sp.
Panicum simile
Setaria geniculata (Slender Pigeon Grass)
Stipa ramosissima
Sporobolus creber (Hedge Mustard)
Vetiveria filipes
- Labiatae
Ajuga australis (Australian Bugle)
Mentha saturejoides (Native Pennyroyal)
Salvia reflexa (Mintweed)
- Leguminosae
Cassia barclayana (a native cassia)
Desmodium sp. (a tick trefoil)
Glycine tabacina (Glycine Pea)
G. tormentella (Woolly Glycine)
- Malvaceae
Malvastrum spicatum (Malvastrum)
Pavonia hastata (Pavonia)
Sida corrugata (Corrugated Sida)
S. rhombifolia
S. subspicata
- Menispermaceae
Stephania japonica var. *discolor* (Tape Vine)
- Myrtaceae
Angophora floribunda
Eucalyptus melanophloia
Callistemon viminalis
Casuarina cunninghamii
- Nyctaginaceae
Boerhavia diffusa (Jar Vine)
- Oleaceae
Jasminum svavissimum (one of the native jasmines)
Notelaea mircocarpa (Native olive)
- Oxalidaceae
Oxalis corniculata (Yellow Woodsquirt or Creeping Oxalis)
- Philesiaceae
Eustrephus latifolius (Wombat Berry)
- Polygonaceae
Rumex brownii (Swamp Dock)
- Portulacaceae
Portulaca oleracea (Pigweed)
- Ranunculaceae
Clematis microphylla (Narrow-leaved Headache Vine)
- Rosaceae
Rubus parvifolius (a raspberry)
- Rubiaceae
Asperula conferta (Common Woodruff)
Canthium buxifolium
Wahlenburiga sp. (an Australian Bluebell)

Rutaceae

Geijera parviflora (Wilga)

Simaroubaceae

Ailanthus altissima (Tree-of-Heaven)

Sinopteridaceae

Cheilanthes distans

Solanaceae

Petunia hybrida (Common garden Petunia)

Sterculiaceae

Brachychiton diversifolium (Northern or Tropical Kurrajong)*B. populneum* (Kurrajong)*B. rupestris* (Coffee Bush)

Thymelaeaceae

Pimelea curviflora (Tough-barked Rice Flower)*P. liniflora* (Queen-of-the-Bush)

Umbelliferae

Apium leptophyllum (Slender celery)

Verbenaceae

Verbena officinalis (Common Verbena)

Vitidaceae

Cissus opaca

Xanthorrhoeaceae

Lomandra multiflora (a mat rush)

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PLATE 11

- FIG. A: Habitats around Viator Hill, looking northeast toward the base camp at the foot of the cliffs of Viator Hill. The savannah is developed on the floodplain of Pike Creek. A dry meander channel forms a trough through the floodplain. Everything visible here is now under water except for the tall hills in the background.
- FIG. B: Savannah woodland along the edge of Viator Hill. Birds, reptiles and amphibians were common in this area, but the native small mammal fauna was depauperate. Dam waters have now covered the area shown.

A



B

